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FRONT COVER

Australian Sheep

Wool from Australia's sheep provide the country's most important export commodity. (Photo courtesy of the Australian News and Information Bureau.)

BACK COVER

Australia—Principal Land Use Regions

Most of the agricultural land in Australia is used for grazing and dairying. Crops are grown largely in a belt along the east and southeast coasts.

NEWS NOTES

USDA Mission to the Eastern Hemisphere Reports

Opportunities to help speed agricultural development exist in many parts of the world, and a number of countries are looking forward to technical cooperation from the United States.

FOREIGN AGRICULTURE

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Vast differences between Western and Eastern agriculture are present, however, and must be recognized if United States technicians are to work successfully with their foreign colleagues. These are highlight observations of a three-man United States Department of Agriculture mission whose members have recently returned from a 3-month trip through a number of Eastern Hemisphere countries.

The three men are *Dr. Ross E. Moore*, Office of Foreign Agricultural Relations, *Dr. Albert H. Moseman*, Agricultural Research Administration, and *Paul V. Kepner*, Extension Service.

As a result of the trip, preliminary steps have been taken to enable cooperative projects in technical agriculture between the United States and several of the countries visited. Present plans call for cooperation with Iran in the development of agricultural extension and research, cooperation with Ceylon in an agricultural extension program to increase the efficiency of rice production, and cooperation with Pakistan in improving agricultural extension work.

OFAR Section Receives Distinguished Service Award

OFAR's Economic Geography and Graphics Section has received a Distinguished Service Award for its outstanding service to agriculture and rural life.

This section, in addition to its other work, prepares the maps and charts that appear in **FOREIGN AGRICULTURE**.

Credit for photographs is given as follows: pp. 144-146, Australian News and Information Bureau; p. 148, ECA; pp. 157, 160, Robert N. Anderson; p. 163, Department of Defense.

ALICE I. FRAY, EDITOR

International Development Through the Point IV Program

With passage of Public Law 535 by the Eighty-first Congress the United States today stands on the threshold of a new era of technical cooperation with other nations.

The United States has embarked on a "bold new program" to encourage nations of the world to share with one another their technical knowledge and skills and to create new economic opportunities for people to live better.

"Act for International Development" is the title of the legislation (Public Law 535, Title IV) recently passed by the Eighty-first Congress, establishing technical cooperation with other countries as the official policy of the United States.

The new policy sometimes is identified informally as the "Point IV Program." This term stems from the fourth point made by President Truman in his inaugural address in 1949. In that address he outlined several courses of action that he believed the United States should emphasize in its international relations in coming years, and, as his fourth point, he called for "a bold new program for making the benefits of our scientific advances and industrial progress available for the improvement and growth of underdeveloped areas."

Agricultural improvement will have an important role in the new cooperative endeavor. Two-thirds of the world's people either do not have sufficient food or, because they still use primitive production methods, must devote practically all their time and energy to raising food for bare subsistence. The program anticipates that as people of underdeveloped areas put into practice more of the world's vast store of agricultural knowledge and skills, they can both improve their diets and give more time and energy to the other pursuits that bring fuller living.

Agriculture, health, and education are three fields that are expected to receive high priority under the program. Other important fields of activity are expected to include transportation and communications, conservation and use of mineral and water resources, service to industry to aid its development, and governmental administrative and technical services, such as

statistics, weather information, public administration, and finance.

In order to insure the cooperative nature of the program, the United States will make available its technical resources and personnel only as another government formally requests that joint projects be established. The Act for International Development authorizes the United States either to work directly with another government on joint projects or to participate wherever practicable in the technical cooperation activities of international organizations such as the United Nations and the Organization of American States.

The Act provides for broad participation, stating that "the participation of private agencies and persons shall be sought to the greatest extent practicable." It provides that guidance for the program shall be given by an advisory board, to be made up of not more than 13 members, appointed by the President, and "broadly representative of voluntary agencies and other groups interested in the program, including business, labor, agriculture, public health, and education."

As the new program takes form and substance, the Government of the United States will be able to draw upon the experiences that various agencies—including the Department of Agriculture—have gained during recent years while carrying out several projects of technical cooperation, most of them in countries of the Western Hemisphere.

Concurrently, the United Nations is setting up a technical cooperation program among its member nations. The program was officially launched in June, when representatives of most of the countries of the world met at Lake Success and pledged working funds for the first year of activity. The United Nations has scheduled 29 percent of the funds for its Food and Agriculture Organization, more than for any other of its agencies.

Australian Agricultural Policy

by T. C. M. ROBINSON



No major change in Australian agricultural policy should be expected as a result of the replacement of a Labor Government in that country by a Liberal-Country Party coalition Government following the general election of December 10, 1949. Socialization, a major issue of the campaign, had less direct bearing on Governmental policy in agriculture than elsewhere, since the Labor Government had not taken any steps to socialize that part of the economy.

The pastoral industry of Australia¹ is producing primarily for foreign markets, with about 60 percent, in terms of value, of all livestock products (other than dairy) normally going overseas. About a fifth of the dairy products and more than a fourth of the agricultural production are exported. Collectively, exports of pastoral and agricultural products account for more than two-thirds of Australia's export income. It is only natural, therefore, that the primary objectives in formulating agricultural policy should be the encouragement of production for export markets and the retention of such markets. Other considerations are the maintenance of farm income, the provision of adequate supplies of foodstuffs for the domestic population at noninflationary prices, the encouragement of closer settlement, the development of the Northern Territory for strategic as well as economic reasons, and the retention of a near monopoly on the

world's fine-wool markets. These objectives, which were pursued with varying degrees of energy by the Labor Government, are shared by the present Government as well. It is only in method that any difference can be expected, and these differences promise to be small.

Bulk contracts between special Governmental marketing boards and the Ministry of Food of the United Kingdom will continue to be utilized for the marketing of most export products. Such agreements are now in effect for exportable surpluses of beef, veal, lamb, mutton, pork, eggs, butter, cheese, sugar, apples, dried fruits, and canned fruits. Some agreements run for a number of years, with each year's price to be negotiated during the preceding year. Contracts covering meats, eggs, dairy products, sugar, and dried fruits are of this type. Apples and canned fruits, on the other hand, are sold each year without benefit of any long-term contract. A general view expressed in Australia is that long-term contracts assure Australian producers of a reasonably remunerative market for their produce far enough in advance to make possible intelligent planning of farming operations. From a national standpoint, it assures Australia of a preferred position, at least as far as quantities are concerned, in the United Kingdom market and thus precludes the possibility of having to sell on badly disorganized world markets in the event of a major world depression.

The export of wool, by far the most important of Australia's export products, is now in private hands. Foreign buyers, either private or Governmental, are

¹ Includes all livestock and dairying.



Golden Gabo is a new hardy type of wheat now being used in Australia.

free to buy at either the auctions in Australia or in England, whither a small fraction of the clip is still sent without passing through an auction in Australia. The possible desirability of setting up a successor to the rapidly liquidating Joint Organization is now under discussion, with pastoral opinion moderately opposed. A major drop in world wool prices would increase the attractiveness of such an international organization for the stabilization of the world wool market. It seems probable, however, that as long as wool prices are satisfactory the present Government will take no steps in that direction.

Wheat is a special case among the export commodities, as it is covered by an international agreement. Australia is one of the principal wheat-exporting countries and has played a leading part in the negotiations of the agreement. Australia's quota under the International Wheat Agreement is 80 million bushels. In years of favorable weather conditions, such as the past 3, considerably more than 80 million bushels have been available for export. On the other hand, during the frequent drought years, exports have fallen as low as 19 million bushels, even with favorable world prices. Under the terms of the Agreement, the maximum and minimum prices for Australian wheat during the 1950-51 year are \$1.80 and \$1.40, respectively. In line with these fixed prices an agreement was announced on April 13 to sell 24 million bushels of wheat to the United Kingdom at \$1.71 a bushel and the equivalent of 3.5 million bushels of wheat in the form of flour at \$1.68 a bushel.

The objective of encouraging the production of export commodities has been, and is being, furthered by a wide range of Governmental actions. Illustrative of the types of encouragement given by both the old and new Governments are the subsidization of fertilizer, the forced subsidization of poultrymen and dairymen by wheat growers through the mechanism of controlled (at less than world levels) prices of wheat for domestic consumption including livestock feeding, the negotiation of long-term export contracts as already discussed, the carrying on of research in production problems by the Commonwealth Scientific and Industrial Research Organization, and the making of special grants to the States for educational purposes—the Commonwealth Dairy Grant, for example. Virtually all developmental work in the Northern

Territory could be described as intended to increase beef production.

The maintenance of farm income has posed no problem during the postwar period because of the abnormal world demand for both wool and foodstuffs and the progressive inflation within Australia. When an individual type of enterprise has appeared to be relatively unprofitable, such as cotton growing in Queensland, it has been abandoned in favor of a more attractive alternative use of land and labor. The existence of the International Wheat Agreement and of the long-term marketing agreements with the United Kingdom would appear to guarantee fairly satisfactory prices for most export products for several years to come, while the world's currently low wool stocks and increasing need for wool suggest satisfactory wool prices for the near future. Even with satisfactory prices, however, farm income could fall drastically as a result of decreased production induced by a prolonged drought. Specific programs that would be undertaken by the Government in that event are difficult to anticipate, but it can safely be assumed that disaster relief in the form of reduced freight rates for the handling of livestock from pastureless areas would be supplemented by such other forms of assistance as remission of taxes, low interest or interest-free loans, and outright grants.

The domestic prices of most agricultural products have been controlled since early in the recent war,



Australia's dairy cattle are being improved by the introduction of well-known dairy breeds such as the Guernsey.



Cattle being driven across a river on a stock route in Australia.

first by the Commonwealth Government and, more recently, after a court decision that Commonwealth control was no longer legal, by the six State governments. The primary purpose of price control at present is to curb inflation.

Costs have increased rather steadily since the war and prices have been adjusted correspondingly. For example, to cover increases in production costs, prices paid to farmers have been adjusted in order to encourage continued output. These adjustments were made after Government-established tribunals had determined that costs had risen. On most export products the permitted domestic price is well below the export price, constituting, in part at least, a consumer subsidy at the expense of the producer. One of the first acts of the new Government was to neutralize a 5-cent-per-bushel increase (U. S. dollars) in the price of wheat by a Federal subsidy of the same amount to prevent any increase in bread or other wheat-product prices. This granting of a direct subsidy on wheat, at Government expense, was new only to that product. Similar subsidies have been distributed to farmers delivering milk to butter and cheese factories ever since 1942, with the rate of the subsidy paid each year equal to the difference between the total return deemed necessary as a result of the survey of production costs and the average returns from export and domestic sales, the latter at controlled prices. For dairy products as well as other agricultural products sold

on both the domestic and export markets, returns from the two types of markets are equalized by means of a marketing board that uses an equalization pool. If any differentiation can be made between the policies of the Labor and Liberal Governments in the matter of holding down living costs, and such differentiation is hazardous, it is probable that the Liberal Government will rely more on subsidies to check the inflationary spiral.

The purchase of suitable large estates by the state and their division into properties of adequate size for the settlement of civilians and returned soldiers has been a settled policy of New South Wales since 1905 and of the other States for shorter periods of time. The Commonwealth Government has cooperated with the States by providing capital for the development of the properties as well as living allowances during an adjustment period. The principle of closer settlement has been accepted by all parties, and any change in program adopted by the Liberal Government will probably relate only to the method of valuation of properties.

The development of the Northern Territory has lagged badly due partly to natural difficulties inherent in its climate and topography and partly to the currently accepted set of social values in Australia. The isolation and lack of amenities are holding up settlement in the Northern Territory much as they are in Alaska. It is hoped, although it is not assured, that

the new Government will approach the admittedly monumental problems of the development of the North, not only of the Northern Territory but also of Queensland and Western Australia as well, with more imagination and vigor than did its predecessor. The first need is better transport, by rail, road, and water. Irrigation projects, hydroelectric power, and the manifold amenities of settled communities must follow.

The monetary policy of the new Government is the subject of much speculation and has a bearing on agricultural policy because of the effect of the exchange rate upon the prices of producer goods used on farms and stations as well as upon the prices, in Australian currency, received for export products. Rumors persist that the present Government is considering the revaluation of the Australian pound, if not to parity with sterling then to a level intermediate between parity and the present 20-percent discount. Such a revaluation would have an anti-inflationary, or even deflationary, effect, and the pastoral and agricultural interests are divided, as are manufacturers, as to its desirability. The Australian winter would seem to be the best period in which to revalue the currency, as

overseas sales of primary products are at their lowest.

Also slightly outside what is normally considered the scope of agricultural policy is the subject of the Government's attitude toward increasing productivity in the coal mines and secondary industries. Shortages of fencing materials, iron pipe, and other metal goods have hindered many desirable activities such as rabbit control, range management, and spray irrigation. The chronic coal shortage is apparently the first bottleneck in the economy that the new Government intends to break. Imports of coal to relieve the shortage initially, followed by greater development of strip mines and mechanical mining of pillar coal in pit mines, are the positive steps that have been proposed. With adequate coal supplies, which could be available by 1952 or 1953, steel production could be increased and all the fabricating industries based on steel would follow. This is a process that will take time, however, and will require improved labor-management relations if it is to be accomplished. The effect upon Australian agriculture of an abundance of producer goods would probably be more salutary than any specific facet of strictly agricultural policy.

Food and Agriculture in the ERP*

by B. H. THIBODEAUX



The European Recovery Program has made encouraging progress, but the situation continues difficult and the problems are complex. European agricultural economic problems are so intimately bound up with economic conditions generally in the ERP countries that it is only within this broader framework that we can discuss agricultural problems intelligibly.

The basic challenge that the ERP Program is designed to meet is well stated in the Economic Cooperation Act passed by the Congress of the United States in April 1948. It says:

The restoration or maintenance in European countries of principles of individual liberty, free institutions and genuine independence rests largely upon the establishment of sound economic conditions, stable international economic relationships, and the achievement by the countries of Europe of a healthy economy independent of extraordinary outside assistance.

Implicit in this statement is a picture of the kind of

European economy that is the goal of ERP. In a word, it is an expansionist economy—an economy of expanding production, increasing efficiency with resulting lowering of costs, expanding multilateral trade on a world basis, and high and rising standards of living. An essential feature in this objective is a Europe that is self-supporting internationally and not self-sufficient at a low standard of living.

All of this is in the sharpest possible contrast with the general situation in Western Europe as it stood in 1947 when ERP was proposed—a situation marked by intolerably low levels of consumption, widespread inflation, reduced production, extensive physical destruction, stagnant international trade, and seriously unbalanced international accounts, especially with the dollar area.

Many of the factors that led up to this situation went far deeper than the grave immediate destruction and disruption caused by total war. For many years

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*Adapted from a paper presented at the International Conference of Agricultural Economists at Stresa, Italy.

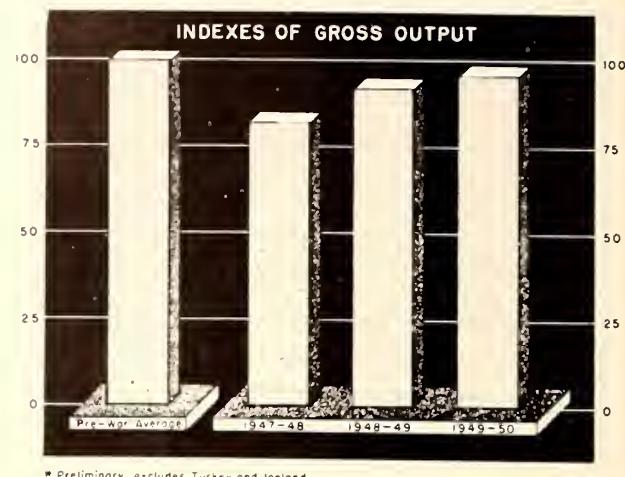
before the war there had been a wearing away of the basic economic advantages that, over the preceding century, had made it possible for Western Europe to support a rapidly increasing population with gradually rising standards of living. These advantages, in the main, were a combination of accumulated capital; technological superiority in many lines of production; predominance in the operations of finance, shipping, and other fields relating to international trade; relatively favorable terms of trade as between the food and raw materials that Europe imported and the industrial products that it exported; and, very important, a national and international climate of relative freedom of domestic and international economic activity that did in fact serve to bring forth in high degree the economic energies of the peoples of Europe. The war not only greatly accelerated the rate of loss of these advantages, but it also left Western Europe with an even larger population than before and with sharply reduced resources with which to support them.

The postwar imbalance in Europe's international accounts as reported by the Organization for European Economic Cooperation is an index of the extent to which this economic deterioration had progressed. In 1938 the total imports from all outside sources of the countries participating in the ERP were valued—in terms of dollars at 1948 prices—at \$13 billion, of which \$5.8 billion were from the Western Hemisphere. In 1947, even at sharply reduced levels of living, total imports amounted to \$12.5 billion, of which \$9 billion came from the Western Hemisphere. On the earning side, total exports from the area dropped from about \$8 billion in 1938 to \$5.4 billion in 1947. Of this, about \$2.5 billion in 1938 and \$1.75 billion in 1947 were exports to the Western Hemisphere. Meanwhile invisible items in the balance of payment, which had shown a credit balance of about \$2 billion annually at prices current before the war, showed up as a net deficit of about three-fourths of a billion in 1947.

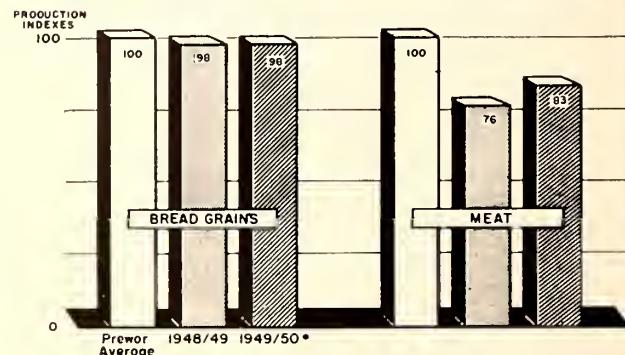
There is obviously a long, difficult road to be covered in moving from the low point of 1947 to the high goals I have described. There are many who say that the task is impossible, especially in the limited time period set for American assistance to the program. Yet I would say that all of those closest to the program—Europeans and Americans alike—believe that most if not all of the job can be done in the time available, if everyone concerned plays his part with full energy, imagination, and vigor.

Some of the main elements of action are clear and work is in progress on them. A first necessity was

AGRICULTURAL PRODUCTION IN ERP COUNTRIES*



* Preliminary, excludes Turkey and Iceland.



the elimination of war-born deficiencies in consumption goods, raw materials, production plants and equipment, and the correction of monetary and other general economic disorder. Much of this was accomplished in the first year of the program. Production indices on the industrial side, at least, are now well above prewar levels in most cases. Savings and investment are at high levels in most of the countries. Action is beginning to be taken to bring the benefits of spectacular recent developments in technology into widespread use in European industry and agriculture. On the international trade side the concept has gained ground in Europe that overseas suppliers of raw materials must be prosperous in order to be good customers for manufactured items. An aggressive attack is being made to liberalize trade and to construct a basis for the convertibility of currencies so as to remove the shackles of restriction on the flow of goods. Finally, direct measures are being sponsored to increase dollar earnings as a means of obtaining needed imports from the Western Hemisphere. The forward movement

that these elements represent has to be pushed aggressively, however, if the over-all objectives of the ERP Program are to be attained.

The OEEC has played a major role in these developments. The mere fact that it is possible for all of the participating countries to lay their plans side by side and compare and correlate them has been a facilitating factor in promoting European economic recovery. An important part of the OEEC is its Food and Agriculture Committee and subcommittees.

Behind the individual and cooperative efforts of the countries participating in the ERP is the economic assistance offered by the United States under the terms of the Economic Cooperation Act. The principal forms of aid provided in this legislation are:

1. Direct grants and loans to cover immediate needs from the dollar area for consumption goods, industrial and agricultural raw materials, and capital items. Procurement of about \$5.25 billion worth of goods and services was authorized under this heading in the first 15 months of the program.

2. Special United States contributions to support increased activity in intra-European trade. This form of dollar aid is given on condition that the recipient country extend grants in its own currency to its debtors among the other participating countries. About \$675 million were made available for this purpose up to June 30, 1949.

3. Counterpart funds that match dollar grants and provide large amounts of local European currencies for use by the participating governments in economic stabilization, investment, and development activities.

4. Technical assistance funds that make it possible to act on a large scale to bring American technicians and technology to Europe or send Europeans to study in the United States.

This, then, is the general picture. A new balance for the European economy must be found to replace the old. For, even if the prewar balance could be completely restored, it would not be enough to meet the needs of the new situation. Moreover, the new balance must be found quickly. Perhaps the most valuable general contribution that ERP aid is making to Western Europe is giving it time in which to re-establish its economic system in an orderly manner. This time is scheduled to run out on June 30, 1952, with the volume of assistance reduced yearly until then. Thus the time available to find a satisfactory new balance is short indeed.

In a sense it is misleading to talk about finding a "new" balance. Whatever is done or not done, there will be a balance in the long run between European output and consumption. The real question is the level at which this balance will be struck in terms of the standard of living achieved by Europe.

So much for a fleeting sketch of the general back-

ground. Let us now take a more specific look at the food and agricultural aspects of the ERP.

Population and Food Needs

In dealing with this question, our point of departure is the population to be fed. Notwithstanding the tremendous loss of life during the war, the population of the ERP countries is now 11 percent larger than the average for the 5-year period 1934-38, and it is expected to be 14 percent larger by 1952-53. Thus, to provide only a prewar per capita level, which was not everywhere adequate, the 1952-53 food supply will have to be 14 percent larger than the prewar average, about one-third of which was imported.

Providing a minimum of 14 percent more food than was available before the war makes it necessary to take advantage of every possible opportunity for increasing European farm production within appropriate cost limitations, as well as to expand greatly the export of commodities that will provide foreign exchange to pay for needed food imports. The optimum degree of self-sufficiency in food production will depend on comparative costs of marginal domestic production and imports, in that high costs of food would weaken the competitive position of industries producing for export. Thus the question of allocation of resources between agriculture and other economic sectors is involved.

Agricultural Production Plans

With this bench mark on the food-requirements side, let us turn to the question of agricultural production possibilities and limitations. Last fall, the ERP countries submitted long-term production plans to the OEEC. These plans dealt with agriculture as one segment of the national economies. "Long term" as used here refers to the period through 1952-53, the first year after the termination of Marshall Plan aid. These agricultural plans were prepared independently in the several countries in accordance with prescribed procedures and assumptions, with the general objective of showing how each nation considered that it could best become independent of extraordinary external financial aid by July 1, 1952. Naturally, these plans were only first approximations and need considerable adjustment to make them consistent with one another in respect to inter-European and international trade. There are other equally important though less obvious inconsistencies in the production patterns considered from the standpoints of economic use of production resources and of specialization by countries. Recog-

nizing these limitations, it is informative to look at these plans or production goals taken together for the entire ERP area as one indication of the possibilities of increased agricultural production during the next 4 years.

According to these plans, the total area of land used for agricultural purposes including permanent pasture, but excluding rough grazing, would increase by 1952 to 4 percent above the prewar level. Actual expansion in agricultural area would be small, however, except in a few countries. The area under tillage would increase to 11 percent above the prewar average and that in rotation pasture to 12 percent, while the area in permanent pasture would decline by 10.

More meaningful are the contemplated changes in the areas in individual crops. The 1952 proposed areas in some major crops expressed as percentages of prewar are bread grains 105, coarse grains 105, potatoes 110, sugar beets 130, and oilseeds 235. These increases are not general for all countries; actually, the totals are heavily influenced by changes in a few.

The plans under discussion bring out the highly significant point that increases in production of basic crops are expected to result largely from increased yields rather than from expanded areas. The goals for yields by 1952 as compared with the prewar average for the principal crops are as follows: bread grains 109 percent, coarse grains 109, and potatoes 117. Moreover, these regional averages fail to reflect the full improvement contemplated in yields because of the relatively greater area increase in certain countries, notably Turkey, in which yields are well below the average for the region as a whole.

As a major part of the effort to bring about these increases in crop yields, the plans call for greatly increased use of fertilizers. The planned increases by 1952 over the prewar average would be as follows: nitrogen 90 percent, potash 77, and phosphates 82. Considerable increases have already taken place.

A rapid development in farm mechanization, already in progress, is expected to continue between now and 1952. By that time, it is proposed that the number of tractors on farms should be approximately five times the prewar average.

As to livestock, the proposed numbers of animals on farms in 1952-53 in relation to the prewar averages are as follows: all cattle 109 percent, milk cows 109, pigs 108, sheep 101, and poultry 115. The output of livestock products would follow livestock numbers fairly closely, although some increase in milk production per cow is contemplated. In general, the prewar

proportions of the major classes of livestock would be restored.

In connection with these proposed changes in livestock numbers, it is interesting to note that net imports of coarse grains, according to the plans, would be by 1.5 million metric tons, about 15 percent, less than the prewar average. Greater dependence would be placed on home-grown feed, including improved meadows and pastures.

Appraisal of Production Plans

In appraising these production plans, there are two broad types of considerations that may be distinguished. The first relates to the rate of increased production to be achieved between now and 1952. The second relates to the direction taken in the proposed increases.

The realization of the production increases contemplated will require a rapid advance in farm technology including mechanization, increased use of fertilizers, better seed, improved and expanded pest controls, and a general improvement in farm organization and production practices. In general, no serious difficulty is envisaged in expanding the area in crops to the extent called for in the plans. The shifts between crops may present somewhat greater problems.

The technological improvements on which greatest dependence is being placed in increasing yields and volume of production can come about, however, only as the result of a great effort by agricultural leaders and by the millions of European farmers. But improvements in technology are the least controversial aspects of the production plans and can be initiated immediately on the basis of available research material. Technological improvements in the economic sense are desirable under any conceivable economic conditions, since they are the means of lowering costs and of increasing output from existing resources.

In general, two conditions must exist if the production increases are to be realized. (1) Farmers must find it to their economic advantage to make the required investments and (2) there is need for an adequate organization to reach millions of farmers with economic and technical information.

Currently price and income incentives vary considerably from country to country. In some, prices are fixed by government, and attempts have been made to establish price relationships that will provide the incentives necessary for achieving the production plans. At the other extreme are those countries with uncontrolled price economies in which dependence is placed entirely on the conventional economic forces

of supply and demand. In the latter countries, production plans can only be forecasts.

In countries where prices are established by government, considerations other than the production goals have often played a part in determining official prices. For example, the price of bread has sometimes been kept low because of its importance in the diet and in the cost of living of the worker. The producer of bread grains may or may not have been insulated by subsidies from the effects of this policy. It seems reasonably clear that some rather substantial adjustments in price relationships will be necessary for the accomplishment of the production plans.

Another question has to do with the general relationships between prices of agricultural products and prices of the elements entering into production. For nearly a year now, prices of farm products have tended to decline. This has been mainly the result of the relatively good European harvest in 1948 and the ability to continue a high level of imports. On the other hand, prices of such materials of production as farm machinery and fertilizers have not dropped correspondingly. Farm production therefore has become less profitable. In the years immediately ahead, this may become a problem of some importance in expanding output. It may still be profitable to increase production, but a decline in gross farm income may make it more difficult for the farmer to find the capital necessary to make investments to expand his agricultural plant or improve his farm practices.

Turning now to the question of knowledge of improved practices and the means for disseminating this knowledge to farmers, it seems clear that much can and should be done. Some countries have rather highly developed programs of research and educational work. Others have very limited ones. Even with adequate economic incentives, it is difficult to see how the production plans can be achieved without a large expansion in advisory or extension services. Fortunately, this need has been recognized by some of the governments of the participating countries.

What Should Be Produced?

Let us look now at the question of the direction that agricultural production should take. Economists would agree to the desirability of considerable specialization within Europe and between Europe and other parts of the world in accordance with our well-known principle of comparative advantage. There are numerous obstacles, however, in the way of such specialization. Among the most evident are the imbalance

in trade among the various countries of Europe; the lack of convertibility of currencies; and the various restrictions imposed in order to balance trade, largely on a bilateral basis. Similar considerations relate to trade between Europe and other parts of the world, especially the dollar areas.

The proper approach seems to be one of going as far as possible in removing obstacles to trade and thereby gaining the economic advantages of specialization and lower production costs.

While there are many problems relating to inter-European trade in agricultural products, perhaps the most critical is that of the future trade between Europe and the dollar area. The level of imports from the Western Hemisphere will not only have important effects on the level of food consumption but will also profoundly affect the kind of agricultural production that is most economical for Europe.

Western Europe has long depended heavily on the Western Hemisphere and Eastern Europe for feed in order to maintain a high level of livestock production. There is considerable uncertainty as to whether feed supplies from Eastern Europe will be available again in the prewar volume. With respect to the Western Hemisphere, there is serious question as to the amount of feed Europe can pay for when American aid comes to an end. The ERP countries may be able to expand feed production to some extent. This is contemplated. Without imports approximating the prewar level, however, output of livestock products cannot be expected to increase in proportion to the population, and it seems unlikely that this can be offset by increased purchases of livestock products from overseas.

Consumption Levels

This raises the question of the level of food consumption that the ERP countries will be able to afford when American aid ends. It is not only a matter of calories but also of source of calories, of nutrients other than calories, and of the general quality and palatability of the diet. The answer at present can be conditional only: The level and quality of the food supply will depend on the success of the ERP countries in increasing agricultural productivity and on the progress in liberalizing and expanding trade in industrial as well as in agricultural products as a means of obtaining needed food and feed imports.

Self-Sufficiency Efforts

There are evidences in the existing production plans that difficulties foreseen in maintaining a high level

of world trade are already directing production into channels that might turn out to be uneconomic under conditions of reasonably free trade. It is proposed, for example, to increase sugar production to 37 percent above the prewar level by 1952. The sugar-beet crop makes a valuable contribution to the livestock industry in the form of byproduct feed, but adequate supplies of sugar are available for export from tropical areas where production costs are low and production alternatives limited. Those charged with planning agricultural production must take the responsibility for higher costs of food and the need for continued subsidies or protection if they support measures to attain a higher degree of self-sufficiency in such crops. They may feel, however, that there is no alternative unless there is assurance that some of the present trade and payment difficulties will be removed.

Another serious problem of production planning arises in the case of countries that are traditionally dependent on European markets for their agricultural export surpluses. Denmark, the Netherlands, and Ireland normally export livestock products to the United Kingdom and Western Germany. To reach the level of livestock production and exports contemplated in their plans, they must have feedstuffs from dollar areas. They can obtain sufficient dollars to pay for these feedstuffs only by converting the proceeds of their inter-European trade into dollars. If this cannot be done it would pose an intolerable handicap on the economies of the countries affected.

Similarly, a problem arises in the case of countries like Italy and Greece, which traditionally export fruits and vegetables to the countries of Northern Europe. The latter countries state that they cannot afford to buy all they would like to consume or as much as they formerly bought of these products, which they class as "luxuries" or "semiluxuries," unless productivity and income levels can be improved beyond present expectations. The producing countries in question may be faced with the unpleasant necessity of adjusting to alternative types of self-sufficiency production in which their relative advantage may be less, thus depriving consumers of products that they would like to have and that would be nutritionally beneficial.

These are examples of the problems that must be met not in 1952 but in the interim years.

Evaluation of Plans

This, then, is the broad picture in general terms and with specific reference to agriculture.

On consumption, as I have said, serious questions

exist whether Western Europe will be able to afford a diet comparable to that of the prewar period. Yet there is a strong desire, only partly reflected in present plans, not only to restore but to improve on this prewar consumption level.

Again, present agricultural production plans are very ambitious indeed in relation to present programs for economic incentives and technological development.

On the other hand, if strong incentives and the best of modern technology were widely applied in European agriculture, the potentialities for increased production would seem to exceed present goals.

In terms of trading possibilities, the contemplated pattern of agricultural production as visualized in present plans is again optimistic. In other words, as analyzed by OEEC, several of the countries in their present agricultural plans expect to sell more of certain high-grade products to other countries than these countries plan to buy or appear to be able to buy. At the same time, many countries appear to be counting on agricultural imports from Eastern Europe in excess of probable availabilities there and on imports from Western Hemisphere sources in excess of their prospective ability to pay for such imports.

Conversely, however, as I have indicated, present plans clearly contemplate expansion of production of many commodities solely for self-sufficiency and dollar-saving purposes to levels that are unwarranted under any reasonable concept of comparative advantage. Fulfillment or expansion of these autarchical elements in the programs could only lead to a withering of international trade and a lowering of standards of living.

What is needed basically in agriculture is a great effort in the application of the latest scientific advances and of time-honored and valid principles of production economics. Increased production at lower costs will provide more food for the European consumer and thus reduce the need for imports or permit a higher level of consumption; it will also lower the cost of living and, consequently, the cost of industrial production, thus aiding in the expansion of exports that will increase the foreign exchange available to cover the necessary imports.

Agricultural economists are already familiar with the tools that, if properly applied, can make a tremendous contribution to the restoration of a prosperous and self-sustaining economy in Europe. The economic resources are not lacking. Success will depend on the vigor and intelligence of the leadership, as well as upon the efforts of millions of farmers.

Searching the Jungles To Improve Rubbertrees

by R. J. SEIBERT



Throughout the jungle country of tropical and semitropical Latin America, visiting scientists and local rubber tappers are working together on a basis of friendly mutual interest to improve the *Hevea brasiliensis*, the Para rubbertree. The rubber tappers, whose homes are in the jungle, serve as willing guides and helpers; the scientists have as their mission the gathering of superior strains of *Hevea* that are high yielding and disease resistant. This informal partnership of recent years has given rise to hopeful progress in the cooperative rubber program of the United States and 14 Latin American countries, whose goal is the establishing of a dependable native rubber supply in the Western Hemisphere.

Although the Para rubbertree is native to the Amazon Valley of South America, the Far East and Africa produced about 97 percent of the world's supply of crude rubber before World War II. The trees required to produce that rubber were descendants of the few seedlings obtained from one lot of seed collected by Henry Wickham in 1876 from one small area along the Rio Tapajos in Brazil. Some authorities maintain that of the seedlings that were germinated at Kew Gardens and transferred to Ceylon and Singapore, less than 100 survived and were directly responsible for the plantation industry of the Far East. Here, with tree selection and breeding, high-yielding bud-grafted strains with proved yields up to 2,000 pounds per acre have been developed over the past 40 years. International restrictions prevented planting of these high-yielding strains to more than a small percentage of the present commercial acreage, however, and most of the 9 million acres of rubber in the Far East produce an average of less than 450 pounds of rubber per acre per year.

The concentration of rubber production in the Far East has always been a source of considerable concern

to the American people. Several past threats to our source of crude rubber supply induced United States rubber companies to initiate rubber plantations in this hemisphere on an experimental scale as early as 1927. At first, these plantings were retarded and threatened with extinction by attacks of the South American leaf blight (*Dothidella ullei*), a serious fungus disease that has spread throughout the entire native range of *Hevea* in South America and as far north as Mexico.

These early experiments proved that none of the high-yielding *Hevea* clones developed in the Far East was resistant to this destructive disease. Of perhaps



120-foot Para rubbertree towers above the jungle.

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even greater significance, it was proved that there do exist in the native jungle range of *Hevea brasiliensis* a limited percentage of wild trees that are naturally resistant to the disease. These significant facts led to the recognition of the eventual feasibility of successful rubber plantations in this hemisphere, though some years might elapse before disease-resistant, high-yielding trees could be developed and proved.

The native range of *Hevea brasiliensis* and related species in South America is tremendous, and the jungle trees are extremely variable. It is to be supposed that continued direct selection from jungle trees might provide material much more desirable as to both yielding qualities and disease resistance than any strains now at hand. As part of the cooperative program being conducted by the United States Department of Agriculture and the governments of some 14 Latin American countries, together with several commercial plantation companies and private cooperators, much attention has been given to this possibility of selecting superior strains of Hevea.

Men have been sent to promising areas in Brazil, Colombia, and Peru to examine native stands and make selections of superior strains. Judging by material already brought out of the jungle and subjected to preliminary tests, there is every reason to believe that from certain jungle areas will come planting materials to provide trees both resistant to leaf blight and other diseases and pests and with high-yielding capacity. The desirability of such jungle selection work has been recognized by progressive plant scientists for years, but it was not until the extensive wartime exploitation of wild rubber provided transportation and facilities that the trees could be reached.

In order to bring budwood from selected jungle trees to the experiment stations where it can be properly tested and be reasonably sure of success in budding, no more than 2 weeks can be permitted to elapse. In the transport of seed, 2 months is the maximum allowable period between time of harvest and planting. Before the war revived extensive operations in South American rubber areas and brought to them air transportation, these jungle areas could be reached only by long hard journeys in dugout canoes and on foot. Most were considerably more than 2 months' travel time away from the nearest planting sites.

The jungle rubber areas were reopened into rather irregular *estradas*. An *estrada* usually consists of from 100 to 170 trees, the number being determined by the proximity of the scattered trees among the dense growth of other jungle species. The individual rub-

bertrees are connected by a trail that runs in an irregular loop from one tree to another and returns finally to its starting point. The trails may vary from 3 to 6 miles in length. A number of them are arranged so as to start from a central area in which the tappers and their families make their headquarters.

Many factors are involved in determining the quantity of rubber that a *seringueiro*, or tapper, obtains from his day's work. The number of trees, their location and spacing, the carefulness of the tapping operation, and the latex-yielding capacity of the trees are all important. When conditions are poor, a day's work may produce only 2 or 3 pounds of smoked ball rubber. In a very few good areas, with careful tapping, an equal number of trees may yield as much as 25 pounds of rubber for the day's effort.

Despite all his difficulties, the *seringueiro* is generally a courteous and helpful man who welcomes the strange "gringo" visitor who wishes to see his *estradas* and evaluate the performance of his trees. To him must be given much of the credit for the success of the program of jungle selection that promises to add so measurably to the future of the rubber industry and to developing Western Hemisphere plantations.

The *seringueiro* is proud of his trees and his work and is capable of giving great assistance in matters of selection for particular characteristics and in obtaining budwood. He seldom fails to offer his services or those of his son, and he may frequently call in his neighbor who may be a more proficient tree climber to aid in the task of collecting a branch of some selection that is particularly difficult to reach.

The jungle selection program has been based mainly upon a procedure of following the *seringueiros* about their daily work and making selections of outstanding trees from their *estradas*. Selections are based upon an evaluation of the general health of the tree, conditions under which it is growing, the ability of the bark to heal and renew properly, and the production of latex. Frequently trees that are producing large quantities of latex are doing so in response to unusual local conditions. The percentage of selectable trees depends upon the standards for selection, and it varies considerably with the region. Perhaps, as a general average, 1 out of 500 trees might be expected to appear worthy of selection in the better jungle areas, although in one case as many as 6 selections were made from an *estrada* of 170 trees.

When a tree is selected, budwood must be obtained by climbing the tree and removing a branch or two, from which budsticks are cut and packed for shipment.

Obtaining budwood usually involves considerable effort and expenditure of time. Few trees are small and still fewer are blessed by having lianas that reach up into the crown. The difficulties are often enhanced by the fact that stinging ants and wasps build their nests along the trunks of large trees. When budwood has been obtained, it is shipped by the fastest possible means of transportation to one of the project's nurseries.

Budwood has the advantage of permitting multiplication of the tree from which it has been collected, the new trees having the same genetical constitution as the jungle tree from which the budwood was taken. They may not, of course, always prove to have the same characteristics as the parent tree for they have different roots. They may perform in an entirely different fashion in plantations than they did in the particular jungle environment. Therefore, the number of ultimately "proved" new clones under plantation trial is expected to be only a small percentage of the original jungle selections.

The efforts to select superior jungle trees have not been entirely confined to the collection of budwood. Seed collections also have been made both from in-

dividual trees and from general areas in which high quality trees have been found. Such seed is of unknown genetic constitution. Cross-pollination appears to be the rule in Hevea and this mass technique may be expected to give populations among which outstanding individuals may be found. This seed is distributed to the various experiment stations engaged in rubber plant research.

In the nursery, the selected buds are budded upon young seedling trees and allowed to develop. When they have expanded several flushes of leaves, they are subjected to controlled tests for the determination of resistance to leaf blight and sometimes to other diseases. Such selections as prove resistant, and there are usually few, are planted in more permanent test areas in several cooperating countries where their growth and the production of latex can be accurately gauged over a period of years under typical plantation conditions.

Such selections as prove satisfactory in growth habit and yield will be maintained and multiplied rapidly to provide propagating material for use in making plantations or for use as breeding stocks in further efforts to improve available strains.



Jungle home of a rubber tapper.

The Farmer and His Land In Communist Czechoslovakia

by STANLEY MEHR



Farmers in Czechoslovakia today find that the conditions under which they earn their livelihood have changed drastically since the communist government came into power nearly 2½ years ago. In addition, they face the prospect of further far-reaching changes that would profoundly alter the very foundation of their existence as farmers. Government policy in Czechoslovakia calls for a radical reshaping of the structure of land tenure and agricultural production. The farmer as an individual operator is being eliminated. This is particularly striking in a country like this one where most of the land was owner-operated. It cannot be said yet that agriculture in Czechoslovakia has been collectivized; very much remains to be done if the Russian pattern is to be duplicated. Much of the groundwork has been laid, however, and the task of collectivizing Czechoslovak agriculture is currently perhaps the major project of the communist regime. The communists are utilizing as their main tools to this end "land reform," taxation, production and marketing programs, "unified co-operatives," and mechanization. This article will deal with the land reform only; a succeeding article will discuss the other phases.

The concept of land reform is by no means new in Czechoslovakia. In 1919–20, important land-reform legislation was enacted. In 1947 this legislation was brought up to date. The New Land Reform Act of March 1948, however, fundamentally changed the basis of ownership of land as previously conceived in democratic Czechoslovakia and in its intent is a step preparatory to what may be termed collectivization.

Land Reform of 1919–20

The First Land Reform, as the laws of 1919 and 1920 are referred to, provided that any holding of more than 625 acres of land or 370 acres of agricultural land¹ was subject to land reform, with the excess over these limits liable to confiscation by the Government. The acreage exceeding these limits could be purchased by the Government, partitioned, and sold or rented to

small farmers, artisans, and landless people, as well as to cooperatives, communities, other public bodies, and approved institutions. Property held by public bodies was not subject to confiscation. Under certain conditions, persons were allowed to hold up to 1,250 acres. In addition, many properties were exempted from confiscation out of various considerations held to be for the public benefit.

About 3,235,000 acres of agricultural land were subject to land reform in that they fell within holdings of more than 370 acres each. This represented more than 15 percent of the agricultural area of Czechoslovakia. Of this total, however, 975,000 acres were allowed to remain the property of the original owners. The balance of 2,260,000 acres—about 11 percent of the agricultural area—was confiscated. By 1932, when the land reform had been practically completed, all but 170,000 acres of the confiscated land had been redistributed. The amount of agricultural land in farms within the 4.9- to 49.4-acre range was enlarged by more than 1,400,000 acres, most of this increase occurring in the 4.9- to 12.4-acre size.

The First Land Reform was accomplished without economic or social dislocation. Much of the expropriated land came from hereditary estates of upwards of 2,450 acres each. It is to be emphasized that the owners were reimbursed for expropriated land. One important effect attributed to redistribution was the increase in livestock that followed the reform.

Land Reform of 1947

The Revision of the First Land Reform Act of July 1947 was intended primarily to do away with numerous exemptions from confiscation allowed on holdings of more than 370 acres of agricultural land or 625 acres of all land under the Act of 1919 and to eliminate evasions of this Act. In addition, farms that had been formed from previously confiscated land were limited to 125 acres in size. Such units derived from confiscated land were further subject to expropriation if the owners were not farming this land. The Act

¹ Farm land exclusive of forests.

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of 1947 also included a provision that had important implications: "In case of urgent local need of land or in a case of public interest . . . anything in excess of 125 acres can be taken over." Land obtained through this law was to be allocated as follows:

- (1) To small farmers to complement farms that were not self-supporting;
- (2) To farm workers, small farmers, and farmers' sons and daughters for the creation of farms;
- (3) To public corporations for public purposes;
- (4) To agricultural production cooperatives; and
- (5) To workers, employees, and small tradesmen, up to 1½ acres for a homestead or garden.

Indemnity to the owner was to be the same as in the First Land Reform Act of 1919-20—based on average prices prevailing in 1913 to 1915. Since no apparent adjustment was made for the considerable increase in the price of land between 1913-15 and 1947, expropriated owners were to receive only a small fraction of the current value of the land.

It has been estimated that approximately 1,480,000 acres of agricultural land were expropriated under the 1947 Act.

Expropriation of Land of Enemy Nationalities

Since Czech Government spokesmen often cite the acreage of agricultural land obtained from the expulsion of the Germans from Czechoslovakia as that accruing from postwar "land reform," it would seem pertinent at this point to discuss the turn-over of land resulting from the eviction mainly of the German agricultural population.

In July 1945, a presidential decree was issued whereby "Agricultural property belonging to persons of German and Hungarian nationality and citizenship, to persons who have shown their hostility . . . is con-

fiscated without indemnity." At that time there were 3 million persons, out of a population of 15 million, classified as Germans who were living in the Czech Provinces of Bohemia, Moravia, and Silesia. This was about the same number as before the war. Of these, approximately 750,000 to 800,000 were engaged in agriculture, mainly in the border areas of the three western Provinces, where the German population was traditionally concentrated. German ownership comprised approximately 3,700,000 acres of farm land. Of this area, roughly 3,460,000 acres were located in the so-called border districts and the balance in the interior of Bohemia. This entire acreage was confiscated without compensation when the German owners were expelled shortly after the war. (Approximately 2,470,000 acres of forest land were also confiscated from German owners.)

In addition to these confiscations in the Czech lands, similar expropriations took place in Slovakia, of land belonging to Germans, Hungarians, and persons accused of being collaborators. Here, 740,000 acres of agricultural land and about an equal area of forests were reported confiscated or in process of confiscation. Hence, for all of Czechoslovakia a total of 4,440,000 acres of farm land—about 23 percent of all farm land—were subjected to confiscation in the period 1945-47 for reasons of nationality or alleged collaboration. This is exclusive of 3,200,000 acres of forest land taken over by the Czechoslovak Government on similar grounds.

Farm land thus taken from "Germans, Hungarians, traitors, and enemies of the Czech and Slovak nation" was to be distributed to persons of Slav nationality. Allotments to farmers were to range from 20 to 32 acres in size, depending upon the quality of the land.



Work brigade on a State Farm in Slovakia.

TABLE 1.—Size of Czechoslovakian farms before and after the First Land Reform

Size of farm	Percentage of agricultural land in each size group		Percentage change
	Before First Land Reform	After First Land Reform	
Up to 4.9 acres	7.8	7.6	-2.1
1.9 to 12.4 acres	14.3	18.8	+31.0
12.4 to 49.4 acres	44.1	46.5	+5.5
49.4 to 247 acres	17.8	17.1	-4.0
247 acres and over	16.0	10.0	-37.4
	100.0	100.0	

Source: Vladislav Brdlik, *A Short Survey of Agriculture in Czechoslovakia*, p. 19, Prague, 1938.

In addition to farmers, agricultural laborers, members of cooperatives, and public bodies were entitled to allocations. The price of such land was set at a value equal to 1 to 2 years' average harvest from the allocated land, and in the case of buildings at 1 to 3 years' rent. In special circumstances the land could be assigned free of charge. Payment could be made in a lump sum within the first year or in installments within a period up to 15 years, in either money or kind. The entry into the Land Register was at the state's expense. Land so acquired was to be regarded as private, personal, and inheritable property. For the purpose of building a house or laying out a garden, workers, employees, and small tradesmen were eligible for plots of up to $1\frac{1}{4}$ acres.

It is of interest to note that the area taken from expelled minorities was greater than that accruing from the total of the First Land Reform and the Revised Land Reform combined. Three times as much agricultural land was expropriated in the course of the expulsion of minorities as was expropriated as a result of the land reform of 1947. The combined turn-over of the three programs was equivalent to 42.7 percent of the farm land of Czechoslovakia.

Redistribution of Expropriated Land

The question, of course, arises how these 5,920,000 acres of expropriated agricultural land have been redistributed. According to the Minister of Agriculture, 3,265,000 acres of this land "was given to small and medium farmers." This is equivalent to 55 percent of the estimated area expropriated. It has also been stated that allotments to farmers ranged from 12.4 to 37 acres each, depending upon the quality of the soil. Most of the allocations consisted of about 20 acres. Possibly 150,000 farm families received such allocations. In addition an estimated 35,000 other families received plots for small holdings, that is, for home sites and gardens.

Measures To Prevent Fragmentation

To prevent fragmentation of agricultural land into still smaller fields and farm units,² the Law on the Indivisibility of Agricultural Land was put into effect in July 1947. The law was intended to limit the division of agricultural land in the process of inheritance and to prevent further subdivision of agricultural land into strips. The main provisions of the section on farm inheritance are as follows:

(1) Upon the death of an owner his farm may be divided only if the total area of each of the various parcels that may result from such division will not be smaller than:

12.4 acres in the sugar-beet region.

19.8 acres in the grain region.

24.7 acres in the potato region.

37.0 acres in the pasture and forage region.

(2) If there is doubt as to which region the farm belongs in, or as to the evaluation of the farm, the court will consult the local farmers' union (in which membership of all farmers has been made compulsory).

(3) In special cases as intensively cultivated farms, i. e., truck gardens, vineyards, and hops culture, division into smaller units may be considered.

(4) If there are several heirs to take over a farm the court has to consider their ability at farming in the event the heirs are not in agreement.

The section of the law preventing splintering of fields states that agricultural land divided by sale or inheritance may be so divided only if the resulting fields will allow effective farming and will not be smaller than $1\frac{1}{4}$ acres. A field is considered suitable for effective farming if it is at least 49 feet wide and can always be reached by road.

This law would have been of considerable relevance in a democratic Czechoslovakia striving to increase the efficiency of its agriculture. However, its potential influence was completely overshadowed by the drastic changes imposed on the country's agriculture by the totalitarian regime that shortly followed.

New Land Reform of 1948

The communists came into power in February 1948. Communist influence in the Government prior to the coup was strong enough to make itself felt in the character of the agricultural legislation, but not enough so as to be dominant. The refusal to compensate expelled minorities for their land is an example of this influence, as is the very low level of compensation stipulated for land expropriated under the Land Reform of 1947.

² It is reported that there are 1,400,000 farms consisting of 33,000,000 plots, or fields, averaging about five-eighths acre each.

The New Land Reform Act was enacted in March 1948, a month after the communists took control of the Government. It reflected a very fundamental difference in intent from that of previous land-reform legislation, although it was ostensibly a simple extension of the land reform. The law incorporated the following significant changes:

(1) One hundred and twenty-five acres is the largest amount of all land (including woodland) that may be owned by a farmer and the members of his family living with him.

(2) Nobody is allowed to own agricultural land that he does not work himself (with some specified exceptions).

(3) Inventory, including livestock, is to be expropriated in the same proportion that land is.

It is apparent that this legislation was primarily intended to undermine the existing legal basis of land ownership. According to one official statement only 670 persons had farms with more than 125 acres (but with less than 625 acres) each at the time the New Land Reform went into effect. This would have subjected at most an additional 330,000 acres of all land (possibly 215,000 acres of agricultural land) if each of these 670 farmers possessed the maximum acreage. The insignificance of the turn-over of even this maximum possible acreage is clear when compared with the 5,920,000 acres of farm land that had changed hands in the 1945 and 1947 programs.

The provision that only those working the land may own it provides the state with the very important power of deciding whether the farm owner is working his farm adequately or properly. The state is already exercising this discretion. The provision that inventory be expropriated in the same proportion as the land can lead to effective crippling of operations on farms where expropriation takes place since there is obviously no simple direct ratio between the acreage of a farm and the livestock numbers, stocks of grain, or machinery and equipment. The operation of this provision would also be pertinent as the acreage limit of 125 acres is forced downward. By setting 125 acres of all land as the maximum permissible size of farm, the Government further sharply reduced the upper range of the scale of operations of individual farmers. Although it did not affect many farmers, it set a lower bench mark from which further reductions could follow. An indication to this effect is a statement by Mr. Duris, the Minister of Agriculture, in April 1949:

In the capitalistic sector of our agriculture, we still have large farmers and village capitalists since through the last law on the land reform the limit of farm holdings was established at 50 hectares (124 acres). However, big farmers and village capitalists are being gradually weakened and

TABLE 2.—Agricultural land expropriated in Czechoslovakia, 1919, 1945, 1947

Source	Acres	Percent of expropriated agricultural land	Percent of agricultural land (1947)
From expropriation of Germans, Hungarians, and enemies (1945)	4,440,000	75.0	23.2
From Revision of First Land Reform (1947) -----	1,480,000	25.0	7.7
Total since World War II -----	5,920,000	100.0	30.9
From First Land Reform (1919) -----	2,260,000	-----	11.8

pushed back through the help of the small and medium farmers and their tie with the working class.

. . . on principle we shall not permit that new capitalists be created in our villages.

In further discussing the drive against the "big farmers and village capitalists" he makes the point that "for the Czech lands, by 1948 the number of agricultural enterprises over 20 hectares (49.4 acres) declined by 18,086, i. e. by 33.4 percent."

The invective against those possessing more than 50 acres is implemented by measures consistent with the nature of the language employed against them. They are, for example, found lacking in the "positive attitude" required by the state, with the result that in spite of various legislative assurances of adequate indemnity for expropriated land, very few, if any, such persons have received compensation.

That the policy of redistributing the land and at the same time limiting the size of holdings to 50 acres is but a maneuver in the drive toward collectivization is shown by such statements as that by Deputy Minister of Agriculture, Ing. Kotatko, in April 1949:

Reviewing today the results of land reforms and comparing them with the goals of socialism, it must not be forgotten that the way to consolidation of land as pointed out by Lenin should lead through its division. . . .

The communists in Czechoslovakia have followed this precept closely. First, the farms large enough to be economically independent were cut up on the grounds of land reform, for the alleged purpose of giving land to small farmers. Such a stroke suited the communists ideally: A class of persons most strongly opposed to the regime was economically ruined; the support (however temporary) of the numerous small farmers and farm workers was enlisted; the many persons receiving land from the Government found themselves with very insecure title to the land and, of necessity, responsive to the state's agricultural directives; and the operations per farm had by and large been reduced to such a small scale that a hue and cry could be raised about the inefficiency of small farms. (Duris



Farm village in southern Bohemia.

ing the land-reform period the small farms had been held up as the paragon of productivity.)

With respect to small farms, the Minister of Agriculture said in November 1948:

It is obvious that the number of 1,400,000 small farms . . . thus split up is a very great obstacle to reliable agricultural planning and food supply. Here even the highest assistance and support to small and medium farmers cannot remedy the shortcomings of small-scale farming. . . .

After quoting Stalin in relation to this matter, Mr. Duris stated that because of the inefficiency of small-scale agricultural production output is much lower than it should be.

Under large-scale production, prices could also be lowered since costs of production would be cut. The State Treasury must subsidize farming in order to help small and medium farmers and consumers. Of course this makes the production and accumulation in our planned economy difficult. . . .

Among many other similar statements made by Czechoslovak Government spokesmen criticizing the inefficiency of small-scale farming and recommending in its stead large-scale production is one by the Prime Minister, ". . . only in collectivized farming can machinery be properly utilized."

Enabling legislation has also been passed to facilitate the consolidation of the many strips of farm land. In the words of an official in the Ministry of Agriculture "far-reaching powers" have been granted to "Consolidation Co-operatives" to carry out the reallocation of scattered pieces of land so that all of each farmer's holdings are in a contiguous parcel. The undesirability of extreme fragmentation and dispersion of farm-land holdings had long ago been recognized in

precommunist Czechoslovakia. A voluntary program had been in effect whereby farmers exchanged small strips in an attempt to form consolidated holdings, of their own free will, albeit slowly. The new law with its assignment of arbitrary power to force consolidation, in disregard of existing property lines, has obviously useful possibilities in the formation of collectives.

State Farms

The area in State Farms has increased very rapidly, having grown from 235,000 acres in September 1948 to 1,480,000 acres of farm land at the end of 1949. A goal of 1,600,000 acres of farm land has been officially announced—a level to be attained the first half of 1950. This is equivalent to more than 8 percent of the agricultural land in Czechoslovakia.

However, this does not, by any means, completely account for the entire area of agricultural land held by the state. This area has never been clearly divulged, in total, by the Government. Since it has been estimated that more than 6,000,000 acres of farm land have been expropriated since World War II and since the Government has announced that 3,265,000 acres have been distributed for small-scale farming, an indicated 2,815,000 acres of expropriated farm land remain in the hands of the state. This represents more than 45 percent of the confiscated agricultural land. It has been possible to estimate, from statements by Government spokesmen, the following utilization of the farm land thus held by the state:

	Acres
Poor land earmarked for reforestation	125,000
Land to be used for public purposes as railways, roads, dams, mines, army camps, airfields, etc.	260,000
Land for specialized Slovak cooperatives	30,000
Land for State Farms	1,600,000
Total, accounted for	2,015,000
Area not accounted for	800,000

It can be seen from the above tabulation that it is possible for the State Farms to increase by fully 800,000 acres over the announced goal, and by even more if confiscations, for a variety of reasons, continue—a not unlikely prospect. It has been indicated, however, that some of the Government-held land will be made available to exemplary "unified co-operatives"—organizations now in process of establishment as forerunners of full-fledged collectives. In any event, it seems that the State Farms are to handle possibly 8 to 15 percent of the agricultural land in Czechoslovakia. Most of the remainder, it is planned, will be in collective farms.

Far Eastern Food Preferences

by E. J. BELL


Wheat growers of the United States, and especially those of the Pacific Northwest, have an active interest in the Far East as a market. Since the war, Northwestern wheat producers have sold a substantial volume of their varieties of soft white wheat to Far Eastern countries. To maintain these important markets in the face of growing competition, growers need a great deal of information about them. It is for this reason that wheat growers of the Pacific Northwest, in cooperation with the United States Department of Agriculture, have recently sent a special mission¹ to the Far East to find out specifically the likes, dislikes, and needs of potential wheat users.

In summary the mission found that the Japanese would probably use more wheat products if the quality were better. Since the war, bread has usually been made from rather coarse flour and has often been sour in taste. In addition, it has been offered as a substitute for rice rather than as a supplementary food.

In the Philippines, however, wheat products are

¹ Other members of the mission were A. M. Camp, President of the North Pacific Grain Growers, and Henry A. Baehr, U. S. Department of Agriculture cereal chemist and marketing specialist. The mission's study was conducted under the auspices of the Research and Marketing Act.

supplementary foods, and Filipinos would continue to demand them even though increased supplies of other cereals were available.

In Malaya, too, the Mission was told that even though the price of rice declines, many Malayans will still eat it only twice a day and want bread for breakfast.

An authority in Indonesia suggested that there is an opportunity to increase substantially sales of bread and rolls through small shops around cities and harbors. It was also suggested that bread products could be established in many homes.

In Thailand the taste trend favors rolls because they are easy to serve. There is also an increasing demand for wheat noodles.

In northern India and Western Pakistan, chapattis, made from finely ground wheat meal, take the place of rice as the basic source of calories.

A market analysis looking toward expanding any product must take into account the tastes, habits, and preferences of potential consumers. In the Far East, this is particularly important because custom, tradition, and religion play an unusually predominant part in the lives of the people. Imported foods, if they are to be accepted on a permanent basis, must fit into the established pattern. People do not eat just rice or



Bakery in Bangkok, Thailand.

noodles or fish or vegetables. They eat *meals* consisting of one or more *dishes*. The preparation of these meals and the cooking and seasoning of the dishes served follow customs that have grown up through the centuries. Nevertheless, food habits do change, sometimes rapidly, when new foods become available or when a people come in contact with others of a different cultural background. It is often impossible to predict the direction that the change will take, and the student of food habits, or the businessman with food to sell, must be prepared to adjust his thinking to that of the consumers.

People in the Far East eat the kinds of food that they can obtain locally and cook with the least possible amount of fuel, of which there is an almost universal scarcity. Rice furnishes the bulk of the calories for the majority of consumers because it is well adapted to the soil and climate of most localities and because it is simple and economical to cook.

Most of the people in the countries we visited have been in the habit of eating white rice as the principal dish in their meals. They want white rice in the rice pot and do not like to put anything else in it. Once the rice is cooked, many of them eat it with highly seasoned curry preparations, although many others eat the rice plain. When they can supplement rice with other foods, they prepare them differently and eat them as separate dishes.

In those areas where rice is not well adapted, millet, cassava, tapioca, sweetpotatoes, and corn supplement the rice diet. But these are generally looked upon as inferior foods. Fish, chicken, eggs, and vegetables are eaten in relatively small quantities when and where they are available. Meat of hogs, cattle, water buffalo, sheep, and goats is consumed occasionally where religious beliefs do not interfere. In Japan soybeans are important sources of vegetable proteins as are the various species of gram (chickpeas) in India.

The universal lack of refrigeration and other facilities for storing perishables has an important bearing on the food pattern. Meat must be eaten as soon as it is butchered. Hence, those who have an animal to butcher often invite friends and relatives for a feast or sell a portion of the meat. Then, they must wait until another animal is ready to butcher before they have meat again. Fruits are eaten as picked from the trees. Vegetables, when they are grown, are eaten fresh and, when vegetables are not in season, none are available. One exception to this is found in Japan where the dikon, a large white radish, is pickled in brine and thereby is available over a longer period.

In this dietary pattern, wheat has an increasingly significant place. It is universally the cereal of second choice. In northern India, wheat has been eaten for centuries in the form of chapattis and similar preparations, which are somewhat like our pancakes. Japanese and Chinese have long been accustomed to wheat noodles and steamed wheat bread. The native wheat of Japan, prewar production of which averaged about 50 million bushels, is a semihard soft red winter wheat, well adapted to noodle making under processing methods commonly in use. The white wheat of the Punjab seems well suited to making chapattis.

With the possible exception of Japan and India, wheat is not necessarily a substitute for rice. We were told in a number of countries that increasing the local supply of rice would not necessarily reduce the demand for wheat. Even when rice becomes more plentiful, many workers will still want bread or rolls for breakfast and other wheat products later in the day. Increasing standards of living and reducing dependence upon imported rice will, in many instances, release funds for the purchase of bakery goods made from imported flour.

With the exception of noodles, chapattis, and steamed bread, wheat products are not cooked in the home, but there is an increasing consumer demand for bread, rolls, sweet biscuits, and cake, baked in small local bakeries throughout all the countries visited. Furthermore, this taste preference is for good quality white bread and rolls rather than for darker products. People who have been accustomed to white rice also want their bread and rolls made from white flour. This growing taste for wheat products is particularly evident in the larger cities where consumers have to buy their food and where they have become acquainted with bread through contact with United States and European populations. Rolls and bread, however, are being used increasingly in smaller population centers wherever people have a little money to spend for supplementary foods.

Purchase of wheat products is not limited to the wealthy classes. Laborers and "white collar" workers are buying bread and rolls for the morning meal. Chauffeurs, laborers, and other workers like to eat hard rolls or bread between meals also. Wheat products are relatively inexpensive except where artificial restrictions have inflated local prices.

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The preference of consumers for wheat in the form of bakery products, noodles, and chapattis is further illustrated by our experiences in many countries where whole wheat had been delivered to consumers who had had no experience with it. In many localities, this was done in an attempt to relieve famine brought on by a shortage of rice. When cracked or whole wheat was boiled and eaten in large quantities like rice, digestive disturbances resulted, and the people refused to eat any more of it. They did not know that wheat requires more soaking and cooking than rice.

In southern India, however, the middle and upper classes who can afford more than one meal a day, are developing a taste for a certain amount of nearly whole wheat. But here the wheat is ground into meal, known as atta, and nutrition workers demonstrate the making of chapattis, puri, paratha, and other preparations. The cereal ration in this area consisted of 10 ounces of rice and 2 of wheat per day per adult and half these amounts for children under 12 years of age. Those

who can afford only one meal a day, however, must have rice because it gives them a greater "sense of fullness" than other foods.

Almost everywhere, however, we found that consumers did not like cracked or whole wheat even when it was treated so that it would cook like rice. Corn also meets with considerable resistance among consumers in the countries visited.

I discussed a number of interesting aspects of the general food problem with nutrition authorities in the countries we visited. Almost everywhere the consumption of meat, fish, vegetables, milk, fats, and oils is very small. There are many evidences of dietary deficiencies, which could be corrected by increased consumption of animal proteins and by the use of enriched rice and wheat flour. Consumers do not want brown rice or long-extraction flour, however, and will use them only when forced to do so. Even then, they will mill the rice at home or in local rice mills to increase the whiteness.

Some authorities also mentioned the undesirability of increasing the use of sugar and starchy grains unless there is a corresponding increase in the consumption of proteins and minerals because the diets of the Far East already contain too many carbohydrates.

There were varying degrees of undernourishment in the countries we visited, and all of them are striving to increase food production and to provide a greater variety in the diet. Many authorities stated that the native populations do not require as much food as is apparently consumed in Europe and the United States. They gave several reasons for this. First, in a warmer climate, people require fewer calories for body maintenance, and, with less activity, less food. Second, they waste no food. Third, with limited amounts, their bodies tend to make economical use of the food eaten. Fourth, racial characteristics *may* have an important bearing on the food required, although there is difference of opinion among authorities on this point. For these reasons, an Oriental country with a food supply of 1,800 to 2,000 calories per person per day may not have as much undernourishment as would be expected when compared with an Occidental population with a daily food supply of 3,000 calories or more per capita.

Although food and fuel are limited in supply (judged by Occidental standards), women in the Far East take pride in their cooking and contrive to give their families a variety of tasty dishes prepared according to the food habits and traditions of their respective localities.



Hanging strips of noodles on a rack to dry in Japan.

